

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/GB2004/005125

International filing date (day/month/year)
06.12.2004

Priority date (day/month/year)
18.12.2003

International Patent Classification (IPC) or both national classification and IPC
C07C309/50, C07D251/20, C09B62/09

Applicant
AVECIA LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/005125

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/005125

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 1-6, 13 partially

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos. 1-6, 13 partially
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
 - the written form ☐ has not been furnished
 - ☐ does not comply with the standard
 - the computer readable form ☐ has not been furnished
 - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
- ☐ See separate sheet for further details

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/005125

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-21
	No: Claims	
Inventive step (IS)	Yes: Claims	1-21
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-21
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

10/583272
AP3 Rec'd PCT/PTO 16 JUN 2004

International application No.

PCT/GB2004/005125

Re: Item III

The initial phase of the search revealed a very large number of documents relevant to the issue of novelty of claims 1-6. So many documents were retrieved that it is impossible to determine which parts of the claims may be said to define subject-matter for which protection might legitimately be sought (Article 6 PCT). For these reasons, a meaningful search over the whole breadth of the claims is impossible. Consequently, the search has been restricted to the compounds of claims 7-16 and their use according to claims 18-21. Nevertheless, some of the documents found relevant to the novelty of claims 1-6 and 18-21 are cited in the Search Report.

Additionally, the search of claim 13 has been restricted to the subject-matter encompassed by claims 14 and 15. Claim 13 is not considered supported as required by Art 6 PCT. The disclosure of the single triazyl exemplified in the description does not support a claim comprising a heterocycle which is optionally substituted by any substituent.

The examination is consequently restricted to searched subject-matter.

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following documents:

- D1: US-A-5 759 247 (GREGORY ET AL) 2 June 1998 (1998-06-02)
- D2: US-B1-6 190 423 (SCHUMACHER CHRISTIAN ET AL) 20 February 2001
(2001-02-20)
- D3: US-A-5 756 693 (KENYON ET AL) 26 May 1998 (1998-05-26)
- D4: WO 97/27250 A (ZENECA LIMITED; TAYLOR, JOHN, ANTHONY) 31 July
1997 (1997-07-31)
- D5: US-A-5 075 428 (JAEGER ET AL) 24 December 1991 (1991-12-24)
- D6: EP-A-0 406 629 (BAYER AG) 9 January 1991 (1991-01-09)
- D7: US-A-5 359 042 (JAEGER ET AL) 25 October 1994 (1994-10-25)
- D8: US-A-5 883 234 (MENNICKE ET AL) 16 March 1999 (1999-03-16)

- D9: WO 98/20077 A (CLARIANT FINANCE LIMITED; CLARIANT INTERNATIONAL LTD; NUSSER, RAINER) 14 May 1998 (1998-05-14)
D10: US-A-5 824 785 (BAETTIG ET AL) 20 October 1998 (1998-10-20)
D11: US-A-5 599 386 (SANO ET AL) 4 February 1997 (1997-02-04)

None of the compounds claimed in current claims 7-17 have been described in the prior art D1-D11. The subject-matter of claims 7-21 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as the provision of alternative dyes for use in ink-jet printing.

The solution to this problem proposed in claims 7-17 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons: the prior art does neither teach nor suggest the use of the alternative compounds proposed such as those of the present claims for said use.

Re Item VIII

1. The definition of a set of compounds using the term "free from fibre reactive groups" is not considered clear as required by Art 6 PCT in that the skilled person cannot unambiguously determine which compounds fall under the scope of this claim.
2. Claim 16 depends on claim 14- this appears to be incorrect (should depend on claim 15)